

scapus pedalis, basi 2 lin. crassus; folia radicalia plurima, rosulata, $2\frac{1}{2}$ – $3\frac{1}{2}$ poll. long., 1 lin. lat.; folia scapi breviora; capitulum 8 lin. diam.; corolla 2 lin. long., omnino alba, tubo attenuato, paleæ liberæ, lineari-setaceæ; ovaria libera, profunde 5-angulata, et, ut in ultima specie, valde hyalina, dentibusque 5 acutis coronatis*.

[To be continued.]

XXXIX.—On the *Animal of Umbonium vestiari-um*.

By ARTHUR ADAMS, F.L.S. &c.

SINCE writing my notice of the animal of *Umbonium giganteum*, which I observed at Hakodadi in Japan, I have had an opportunity, in the north of China, among the Mia-tau Islands, at the entrance of the Gulf of Pe-chili, of observing *Umbonium vestiari-um*, Linn. (*Rotella lineolata*, Lamk.), in a living state, and have succeeded in procuring a correct figure of the architect of a shell which, like that of *Phorus* and *Terebellum* formerly, has long been familiar to naturalists, but the true position of which, in a natural arrangement of Mollusca, has remained doubtful.

The animal may be found, at low-water spring-tides, in vast numbers covering the sandy patches between the trachytic and basaltic rocks which compose the basis of the islands of this group. Some few individuals, half-covered with sand, may be seen on the surface; but the majority must be sought for under the surface of the wet sand, by following the traces they leave. They burrow rapidly by means of their broad and flexible foot, which they press downwards, and scoop out a bed for the shell, throwing up the sand from under it. The use of the curious fimbriated funnel-shaped organ formed from or appended to the modified eye-peduncle of the left side is now obvious: it serves as a means of communication between the surrounding water, which fills the cavity in which the *Umbonium* is lodged, and the gills—ejecting the particles of sand, and performing the part of a true siphon.

On a level surface the animal marches in a deliberate manner, taking long strides as it seems, the onward movement being effected by alternate lateral undulations of the foot, one side advancing at a time. As it walks, the caudal extremity moves from side to side in an undulatory manner. The *Umbonium* is very sensitive to alarm, shrinking at any sudden noise or vibration. When placed on its back, it soon rights itself, by placing its foot under the shell, and will often turn over several times.

The muzzle is short and rounded, and of a pale brown, the extremity being pellucid, and the margins furnished with ra-

* This species is represented in Plate 47 c.

diating beards. The tentacles are long and tapering, semi-opake, white, with about five or six rather distant black rings. The eyes are placed at the ends of stout elongated peduncles, the right free, the left attached to the pseudo-siphon; the eyes, at the apex of a white bulb, are of a dark brown colour, with a small round black pupil. The white peduncles are stained with dark brown just below the bulb. The funnel-shaped organ on the left side is semipellucid, and furnished inside with numerous opake white papillæ; the edge is fringed, and adorned with black dots. The neck-lappet on the right side is large, and folded on itself, forming a conspicuous anal siphon flecked with opake white, but sufficiently pellucid to allow the passage of the fæces to be distinctly seen through the walls of the tube. This organ is sometimes thrown up upon the back of the shell.

The mantle, as might have been surmised from the polished nature of the surface of the shell, is reflected over the front edge of the outer lip, forming a narrow black rim, and, when touched, is immediately retracted. The portion of shell covered by the mantle is seen void of colour or markings on the perfect adult shell. In cabinets the shell is rarely perfect, on account of the thin, brittle nature of this part. The lateral membrane of the foot is provided with four tentacular filaments, the two posterior rather closer together than the two anterior.

The foot is voluminous, with flat thin margins; it is semi-pellucid, and the operculum is placed on the dorsal surface, close to the shell; the hind part of the foot extends in the form of a tail far beyond the operculum, and is triangular, flat above, and angular at the sides, two dark lines meeting behind in a point behind the flat area. The sole is greyish, with a median opake white patch at the fore part, and with numerous very fine radiating pencilled lines on each side; a dark-grey median streak extends from the white blotch as far as the end of the tail, and in the middle part are one or two slender dark transverse lines.

Any further observations on the anatomy and dentition I must for the present reserve.

Wei-hae-Wei, Shan Tung, China,
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XL.—Notice of an undescribed Peculiarity in *Teredo*.

By J. GWYN JEFFREYS, Esq., F.R.S.

ON my return last week from the Continent, through Holland, I had the pleasure of meeting Dr. Verloren at Utrecht, and of examining living specimens of *Teredo marina* which he had kept in a glass jar for about ten months. They appeared to have become habituated to the loudest noise; and even when the jar was